

**Notice of Allowability**

Application No.

10/037,897

Applicant(s)

CAI, YIJUN

Examiner

Alexander Jamal

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after final amendment 11-9-2005.
2. ☒ The allowed claim(s) is/are 1-7, 10-15 and 17-29.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**WING CHAN**  
**SENIOR PRIMARY EXAMINER**  
**TECHNOLOGY CENTER 2600**

## **DETAILED ACTION**

### ***Response to Applicant's Amendment***

1. Based upon the submitted amendments received 11-9-2005, examiner notes that the amendment has been entered, and notes that claims 10,17,19,28 have been amended and claims 8,9,16 have been cancelled.
2. Examiner notes the examiner's amendment below and withdraws the all rejections to all claims.

### ***Examiner's Amendment***

3. An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on 12-22-2005, Mr. Jun Jeon requested an extension of time for 1 MONTH(S) and authorized the Director to charge Deposit Account No. 03-1728 the required fee of \$120.00 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Art Unit: 2643

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jun Jeon (43,693) on 12-6-2005.

The application has been amended as follows:

**Claims 7 and 12-13** have been amended

7. (Currently Amended) A method of computing an injection signal power within a voltage-controlled oscillator on an integrated circuit, the method comprising the steps of:

- determining an injection lock frequency range of the voltage-controlled oscillator;
- determining a que of an LC tank within a voltage-controlled oscillator;
- determining a free-run frequency of the voltage-controlled oscillator;
- determining a free-run output power of the voltage-controlled oscillator; and
- calculating an injection signal power value proportional to a product of a square of the injection lock frequency range, a square of the que, and the free-run output power of the voltage-controlled oscillator divided by a square of the free-run output frequency of the voltage-controlled oscillator,

wherein the step of determining an injection lock frequency range comprises the step of measuring an injection lock frequency range of the voltage-controlled oscillator, and

wherein the step of measuring the injection lock frequency range of the voltage-controlled oscillator comprises the steps of:

applying a control voltage to an input of the voltage-controlled oscillator such that the output frequency of the voltage-controlled oscillator locks to an output frequency of ~~another~~ a second voltage-controlled oscillator on the integrated circuit; and

varying the output frequency of the voltage-controlled oscillator until the output frequency of the voltage-controlled oscillator falls out of lock with the second ~~other~~ voltage-controlled oscillator.

12. (Currently Amended) A method as in claim 7, wherein the ~~other~~ second voltage-controlled oscillator is an element of a first phase-locked loop.

13. (Currently Amended) A method as in claim 12, wherein the step of varying the output frequency of the ~~other~~ second voltage-controlled oscillator comprises the step of:  
changing a frequency of an input stream to the first phase-locked loop.

**Claims 30-34** have been cancelled.

***Allowable Subject Matter***

**5. Claims 1-7,10-15,17-29** are allowed over the prior art of record

Art Unit: 2643

6. The following is an examiner's statement of reasons for allowance:

In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art first to utilize one VCO on an integrated circuit as a frequency generator in order to derive the values of the equations taught in the Chang reference and further use those values to optimize the performance of both VCO's on the single IC chip.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

AJ  
December 22, 2005



**WING CHAN**  
**SENIOR PRIMARY EXAMINER**  
**TECHNOLOGY CENTER 2800**